Audit of Forest Planning and Practices

Ainsworth Lumber Co. Ltd.

Forest Licence A18690

FPB/ARC/41

June 2001

Table of Contents

A. Report from the Board

B. Forest Practices Board Compliance Audit Process

C. Report from the Auditor

1.0 Introduction

2.0 Audit Scope

3.0 Audit Findings

4.0 Other Comments

5.0 Audit Opinion

101-04994/

Report from the Board

A. Report from the Board

This is the Board's report on a compliance audit of Forest Licence A18690, held by Ainsworth Lumber Company Ltd. (Ainsworth). The operating area for this licence is located within the Kamloops Forest District, primarily around the communities of Cache Creek and Ashcroft (refer to attached map).

The audit examined Ainsworth's field activities and obligations for the period of July 1, 1999 to July 19, 2000, related to operational planning; timber harvesting; silviculture; fire protection; construction, maintenance and deactivation of roads; and construction and maintenance of bridges. The Report from the Auditor (Part C) provides further details on the location of FL A18690, the scope of the audit and the audit findings. The Report from the Auditor is based on the audit procedures described in Part B.[1]

Before completing this report, the Board considered written representations from Ainsworth as required under section 182 of the *Forest Practices Code of British Columbia Act*. The Board also considered the report from the auditor, along with supporting audit evidence. Based on its analysis of this information, the Board accepts the audit findings and provides the following conclusions.

Conclusion

The Board accepts the auditor's findings that, except for bridge maintenance activities addressed below, the forest planning and practices of Ainsworth complied with Code requirements in all significant respects.

The audit identified a number of bridge maintenance deficiencies—timing of bridge inspections, content of inspection reports, and the scheduling and completion of repairs recommended in inspection reports. Ainsworth has advised the Board of remedial actions with respect to findings in the auditor's report and has informed the Board that it has implemented a ledger system to document and track bridge inspection and maintenance activities. Ainsworth has also reported completion of all necessary bridge maintenance by replacing two bridges and repairing two other bridges.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board

May 24, 2001

---

[1] Part B of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

Forest Practices Board Compliance Audit Process

B. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government's and agreement holder's compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board is given the authority to conduct these periodic independent audits by section 176 of the Act. Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit involves the examination of selected forest practices (e.g., roads, or timber harvesting, or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. The Board audits agreement holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's Small Business Forest Enterprise Program (SBFEP), which is administered by Ministry of Forests district offices. Selection of agreement holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice required by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on the scope of the audit (limited scope or full scope), the staff and resources required to conduct the audit and the period covered by the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified; for example, harvesting or replanting sites and building or deactivating road sections during the audit

period. The items that make up each forest activity are referred to as a "population." For example, all sites harvested form the "timber harvesting population." All road sections constructed form the "road construction population." The populations are then sub-divided based on factors such as the characteristics of the sites and the potential severity of the consequences of non-compliance on the sites.

The most efficient means of obtaining information to conclude whether there is compliance with the Code is chosen for each population. Because of limited resources, sampling is usually relied upon to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from helicopters and intensive ground procedures, such as the measurement of specific features like road width. The audit teams generally spend two to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to support the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is significant and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred or is beginning to occur to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy & Mines, and Environment, Lands & Parks.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The party is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines whether any party or person is potentially adversely affected by the audit findings. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow potentially adversely affected parties to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally offer written representations to potentially adversely affected parties, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews both the report from the auditor and the representations before preparing its final report, which includes the Board's conclusions and, if appropriate, recommendations.

If the Board's conclusions or recommendations result in newly adversely affected parties or persons, additional representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.

Report from the Auditor

C. Report from the Auditor

1.0 Introduction

As part of the Forest Practices Board's 2000 compliance audit program, Forest Licence A18690 was selected for audit from the population of major licences within the Kamloops Forest Region. The licence, held by Ainsworth Lumber Co. Ltd. (Ainsworth), was selected randomly and not on the basis of location or level of performance.

Forest Licence A18690 is a volume-based licence within the Kamloops Forest District and lies within the Kamloops Timber Supply Area. Forest licences do not have specific borders within which activities take place. However, the traditional operating area for the licence is fairly well defined in a single geographical block around the communities of Cache Creek and Ashcroft. The operating area extends from the Highland Valley Dam in the south to Loon Lake in the north, and from Savona in the east to Pavilion Lake in the west (see attached map).

The forest licence has an allowable annual cut of 209,124 cubic metres. The actual volume cut during the audit period was approximately 192,000 cubic metres. Approximately half of this harvest related to harvesting measures implemented in response to a significant mountain pine beetle outbreak. Trees killed by mountain pine beetle were harvested to salvage the timber, and other trees attacked by mountain pine beetle were harvested to control the spread of mountain pine beetle infestations.

2.0 Audit Scope

The audit examined Ainsworth's activities and obligations related to operational planning (including forest development plans[i] and silviculture prescriptions[ii]); timber harvesting; silviculture; fire protection; and the construction, maintenance and deactivation of roads. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code).

The period for which activities were examined was July 1, 1999, to July 19, 2000.

The activities carried out by Ainsworth during the audit period, and therefore subject to audit, were:

- harvesting of 60 cutblocks
- construction of 9 road sections totalling 66.8 kilometres
- maintenance of approximately 514 kilometres of road, involving activities such as road surfacing and cleaning culverts and ditches
- maintenance of 9 bridges and 1 major culvert
- seasonal deactivation of 12 road sections totalling 29 kilometres
- planting of 37 cutblocks and mechanical site preparation on 29 cutblocks
- regeneration obligations on 166 cutblocks
- fire preparedness planning, fuel management, and hazard abatement

The activities carried out by Ainsworth during the audit period were approved in its 1999-2003 Forest Development Plan. Activities in the district fall under the scope of the Kamloops Land and Resource Management Plan (KLRMP), which was declared a higher level plan under the Code in January 1996. As a result, planning and practices of Ainsworth are required to be consistent with the KLRMP. In addition, a total of 11 silviculture prescriptions were approved during the audit period, but harvesting had not yet started.

2.1 Audit Scope Limitation

Ainsworth's woodlands operations were inactive from July 7 to July 24, 2000 as a result of an effort by Ainsworth to limit the delivery of logs to the sawmill and reduce existing log inventories. This previously planned shut down coincided with the ten-day period of the audit. Because there were no active forestry operations, it was not possible to fully examine Ainsworth's compliance with Code requirements for fire equipment in the field in order to provide an overall opinion regarding the state of fire protection and compliance with the Code. Therefore, only Ainsworth's fire preparedness plans, central equipment cache, and fire-hazard abatement practices were included within the scope of this audit.

Section 3 describes the results of the audit. The Board's audit reference manual, *Compliance Audit Reference Manual, Version 4.1, May 2000*, sets out the standards and procedures that were used to carry out this audit.

3.0 Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined:

- harvesting practices on 25 cutblocks
- construction of 8 road sections totalling 47.4 kilometres
- maintenance of approximately 123 kilometres of road
- seasonal deactivation of 5 road sections totalling 10.6 kilometres
- maintenance of 9 bridges and 1 major culvert
- planting of 10 cutblocks and mechanical site preparation on 9 cutblocks
- regeneration obligations on 15 cutblocks
- fire preparedness planning, fuel management, and hazard abatement

The audit also examined Ainsworth's 1999-2003 Forest Development Plan and its approved amendments, including its consistency with the KLRMP. In addition, the audit examined silviculture prescriptions for three cutblocks where harvesting had not yet started.

Findings

Except for bridge maintenance activities, the forest planning and practices of Ainsworth were in compliance, in all significant respects, with Code requirements for operational planning; timber harvesting; silviculture; and road construction, maintenance and deactivation.

As described in section 2.1, the audit identified a scope limitation that did not allow the testing of Code requirements for fire fighting tools and equipment in the field. However, Ainsworth's fire preparedness plans, central equipment cache, and fire hazard abatement practices were in compliance, in all significant respects, with Code requirements.

Bridge Inspections and Maintenance

The audit identified a situation of significant non-compliance involving Ainsworth's bridge inspection and maintenance practices. The audit identified deficiencies in the timing of bridge inspections, the content of inspection reports, and the scheduling and completion of repairs recommended in bridge inspection reports.

The Code requires that all bridges be inspected at least every three years, and as frequently as every two years if constructed with untreated wooden structural components. The Code also specifies what elements must be included in all bridge inspection records, and requires that repairs identified in the inspection records be completed according to the schedule specified in those records.

All nine of the bridges that Ainsworth is required to maintain were examined during the audit. Six of the bridges should have been scheduled for an inspection in 1998 but were not inspected until 1999. A seventh bridge had no record of any inspection during the five-year period from July 1995 to July 2000. When inspected in July 2000, that bridge was rated as "poor" and recommended for replacement.

In addition, the 1996 inspection report for one of the bridges inspected in 1999 identified rot in the stringers and sill logs and provided repair recommendations, but failed to specify a date for completion of the repairs. The repairs were not completed before the 1999 inspection, which reported further deterioration in the stringers and sill logs, and a failure of the ballast wall.

Further, the 1999 bridge inspection reports identified three bridges requiring repairs, including the one noted above, but did not include a schedule for recommended repairs. The repairs did not take place in 1999 because Ainsworth did not receive the completed inspection reports until after the end of the 1999 fisheries work window. In-stream works are only permitted from August 1 to September 30. At the time of the audit, in July 2000, Ainsworth did not yet have a repair schedule in place for those bridges.

Since the completion of the audit field work, Ainsworth has replaced two bridges, including the one that had no record of inspection, and repaired two other bridges. Ainsworth has also implemented a bridge ledger to track its bridge inspection and maintenance activities.

The main sections of the Code to which the non-compliance relates are sections 16(1) and 17(1) of the *Forest Road Regulation*.

4.0 Other Comments

Under section 10(1)(c) of the *Forest Practices Code of British Columbia Act*, the Ainsworth forest development plan was required to specify measures that would be carried out to protect forest resources. To meet this requirement, the plan had to meet the specific requirements of the *Operational Planning Regulation* and the objectives of any landscape level plans that had been designated by government as higher level plans.

Under the Forest Practices Code, such higher level plans are expected to provide direction for forest development plans by directing the development of local level plans and setting landscape level objectives, including those for maintaining successional stages of the forest, biodiversity, and managing habitat for specific species, such as caribou and grizzly bear.

In the Kamloops Forest District, strategic direction is provided by the KLRMP, which was declared a higher level plan under the Code in January 1996. The KLRMP establishes resource management zones and landscape unit boundaries for the Kamloops and Clearwater Forest Districts. The KLRMP identifies a number of resources – including visually sensitive areas, critical deer and moose winter ranges, fisheries, recreation and agriculture – and provides an archaeological overview assessment for both forest districts. In addition, the KLRMP establishes general objectives, strategies and indicators for those resources, for the entire plan and within each management zone. However, at the time of the audit, individual landscape unit objectives or plans, that would describe more specific objectives and targets and provide direction to the operational planning process, had not been completed.

As this audit was a compliance audit, it included an assessment of Ainsworth's forest development plan's compliance with the Code, including consistency with the KLRMP. However, the audit did not address the adequacy of landscape level protection of specific wildlife or biodiversity resources because of a lack of specific targets and Code requirements related to these items.

5.0 Audit Opinion

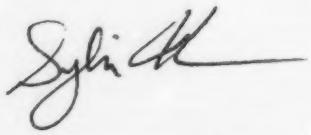
In my opinion, except for the significant non-compliance described below, the operational planning; timber harvesting; silviculture; fire preparedness planning; fire hazard abatement practices; and construction, maintenance and deactivation of roads carried out by Ainsworth Lumber Co. Ltd. on Forest Licence A18690, from July 1, 1999, to July 19, 2000, were in compliance, in all significant respects, with the requirements of the Code as of July 2000.

As described in section 3.0 of this report, the audit identified deficiencies in the frequency of bridge inspections, the content of bridge inspection records, and the scheduling and completion of recommended repairs identified during bridge inspections.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2 and 3 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board, except that no opinion has been provided on Ainsworth's

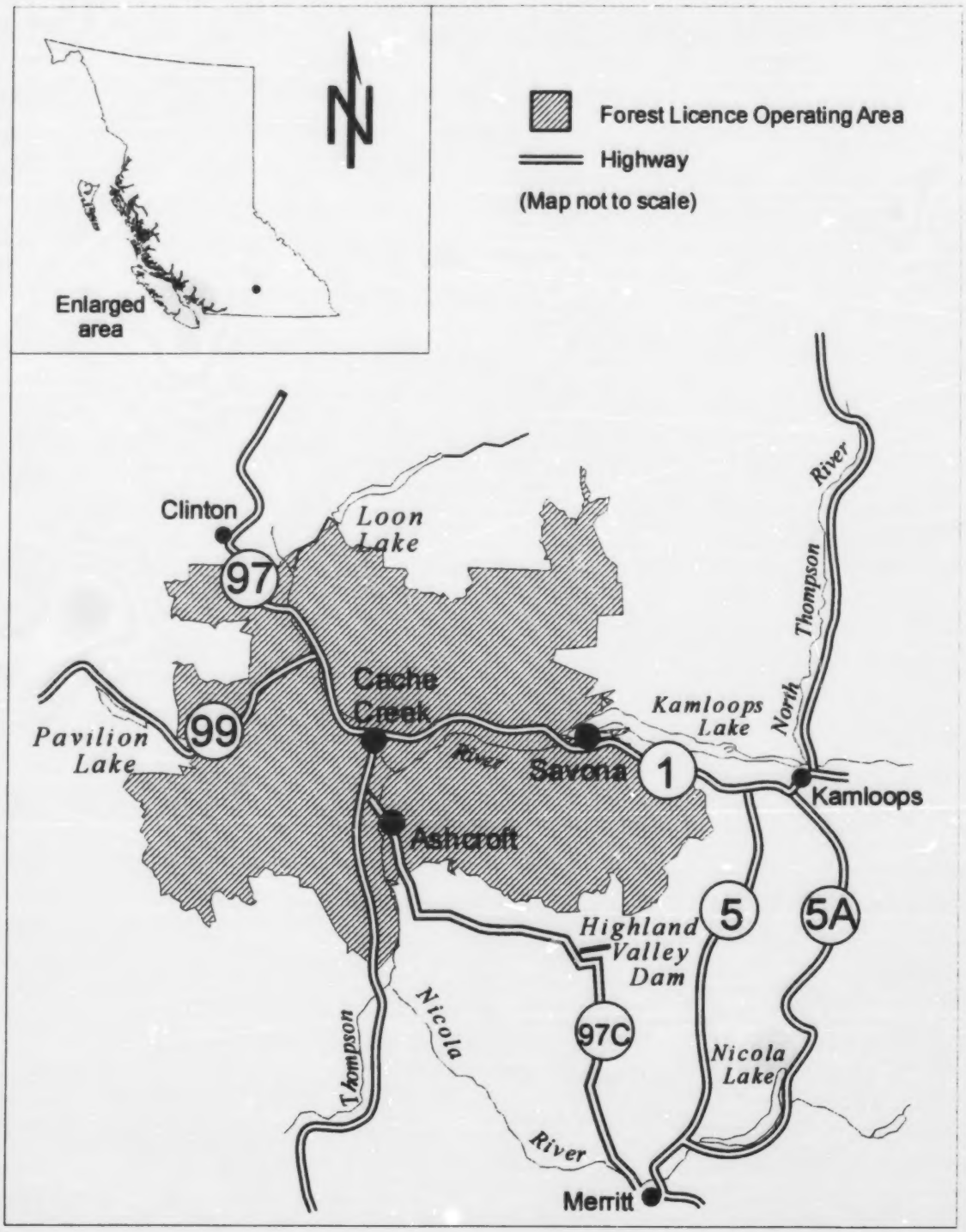
compliance with Code requirements for fire fighting tools and equipment in the field because of the scope limitation identified in section 2.1 of this report. Such an audit includes examining sufficient planning and forestry practices to support an overall evaluation of compliance with the Code.



Sylvi D. Holmsen, RPF
Auditor of Record
Vancouver, British Columbia

March 5, 2001

Audit of Ainsworth Lumber Co. Ltd.
Forest Licence A18690



[i] A forest development plan is an operational plan that provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources (including water, fisheries, and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.

[ii] A silviculture prescription is a site specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values including biological diversity, and produce a free growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.